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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,976	04/07/2006	Martin Graham Partridge	JMYS-141US	5934

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EXAMINER	
BOYKIN, TERRESSA M	
ART UNIT	PAPER NUMBER
1796	
MAIL DATE	DELIVERY MODE
03/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,976	PARTRIDGE ET AL.	
	Examiner	Art Unit	
	Terressa M. Boykin	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4-7-6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Abstract missing

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

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Abstract

Applicant is reminded of the proper language and format of an Abstract of the Disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. The printer will no longer accept Abstracts that are more than 25 lines, regardless of the number of words. The form and legal phraseology often used in patent claims, such as "means" and "said", should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C.

102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-27 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/42537 see abstract, claims; or WO 01/56694 see abstract, claims.

WO 02/42537 discloses a catalyst composition comprises:

(a) organometallic compound which is the reaction product of orthoester or condensed orthoester of titanium, zirconium or aluminum, alcohol containing hydroxyl groups, 2-hydroxy carboxylic acid and base; and

(b) compound of germanium, antimony or tin.

The reference discloses (i)production of polyester involves reacting a compound chosen from terephthalic acid, dimethyl terephthalate, isophthalic acid, dimethyl isophthalate, dimethyl 2,6-naphthalate and naphthalene dicarboxylic acid with an alcohol like 1,2-ethanediol, 1,4-butanediol, 2,3-propanediol, 1,6-hexanediol, trimethylol-propane or pentaerythritol in presence of catalyst composition;

(ii) manufacture of polyester article involves subjecting polyester to solid phase polymerization reaction, to form polyester material having intrinsic viscosity of 0.5 dl/g, measured according to ASTM D4603 and forming polyester article from polyester material in melt phase and cooling;

(iii) polyester article containing residues of catalyst composition, such as

tire cord and seat belt;

(iv) rubber reinforced article comprising tire cord;

(v) tire comprising rubber reinforced article;

(vi) safety restraint system comprising seat belt;

(vii) method of improving extensional viscosity in fiber spun from polyester made from titanium catalyst, involves using the catalyst composition to form polyester; and

(viii) fiber having improved extensional viscosity containing residues of catalyst composition.

The catalyst may be used for preparation of ester such as polyester used for production of textile and industrial fibers, films, rigid packaging articles such as bottles, trays and clamshell containers, tire cord, seat belt for safety restraint system and rubber reinforced article of tire (all claimed).

Polyester with improved melt properties is formed using improved organometallic composition. Polyester articles with improved process stability and product quality is formed by the improved melt properties of polyester.

WO 01/56694 discloses a catalyst composition comprises an organometallic compound which is a complex of (a) a first metal, (b) a second metal and (c) a carboxylic acid. The first metal is titanium or zirconium. The second metal is germanium, antimony or tin.

The reference specifically discloses a method of preparing the catalyst composition, comprising:

(a) adding separately to an aqueous carboxylic acid solution the sources of the first and second metals,

(b) removing water from the mixture and free alcohol formed in the reaction,

(c) optionally adding a base and/or an alcohol and

(d) optionally removing excess water from the composition.

(B) A process for the preparation of an ester, comprising carrying out an esterification reaction in the presence of the catalyst composition.

(C) A process for the manufacture of a polyester, comprising:

(a) reacting together terephthalic acid, dimethyl terephthalate, isophthalic acid, dimethyl isophthalate, dimethyl-2,6-naphthalate, or naphthalene dicarboxylic acid with 1,2-ethanediol, 1,4-butanediol, 2,3-propanediol, 1-6-hexanediol, trimethylol-propane, or pentaerythritol in the presence of the catalyst composition, and

(b) optionally subjecting the resulting polymer to a solid phase polymerization reaction, to form a polyester material having an intrinsic viscosity of at least 0.5 dl/g (ASTM D-4603).

The above may be used in the preparation of esters, polyesters and polyester articles, e.g.
fibers, films or containers (claimed).

The catalyst composition produces esters and polyesters at an economical rate without leading to haze in the final product, and with a reduced amount of yellowing of polyesters.

Preferred Components: The first metal is derived from an orthoester or condensed orthoester of titanium or zirconium. The second metal is derived from an (alk)oxide, halide or metal-organic compound, e.g. organic salt, of germanium, antimony or tin. The composition further includes a base, preferably sodium hydroxide, potassium hydroxide, calcium hydroxide or ammonium hydroxide.

Preferred Amounts: The molar ratio of the first metal to the second metal is 99:1-1:99, while that of the base to the total metal is 10-0.1:1.

Preferred Components: The carboxylic acid is an unsubstituted 1-20C carboxylic acid or hydroxy carboxylic acid, preferably acetic acid, oxalic acid, capric acid, lauric acid, lactic acid, citric acid, malic acid or tartaric acid. The base can be tetrabutyl ammonium hydroxide, tetraethyl ammonium hydroxide, choline hydroxide, benzyltrimethyl ammonium hydroxide, monoethanolamine, diethanolamine, triethanolamine or triisopropanolamine. The composition further includes a solubilizing compound, preferably an alcohol containing at least two hydroxyls. The alcohol is preferably 1,2-ethanediol, 1,2-propanediol, 1,3-propanediol, 1,4-butanediol, 2-methyl-2,4-pentanediol, cyclohexane dimethanol, diethylene glycol or a polyethylene glycol.

Preferred Amounts: The molar ratio of acid to total metal is 4:1-0.1:1, while

that of alcohol to total metal is 50-1:1.

Titanium isopropoxide (63.95 g) and germanium isopropoxide (7.72 g) were added over 30 minutes to citric acid monohydrate (131.34 g) in water (100 g). The mixture was refluxed for 1 hour and then stirred overnight. The product was heated to remove water and isopropanol. The cooled solution was then slowly treated with 32 wt.% NaOH solution (95 g), diluted with ethylene glycol (125.35 g) and stirred for 20 minutes. The product was filtered and distilled under reduced pressure to remove remaining water and isopropanol. A colorless, highly viscous solution having a Ti content of 3.76 wt.% and a Ge content of 0.63 wt.% was obtained.

Each of the references discloses a catalyst which is used in the esterification reaction prepared from the same components as claimed by applicants. Since the Disclosed amounts, i.e. moles per mole...., are expressed differently and thus may be distinct from those claimed, it is incumbent upon applicant(s) to establish that they are in fact different and whether such difference is unobvious. In view of the above, there appears to be no significant difference between the reference(s) and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the

differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/42537 see abstract, claims; or WO 01/56694 see abstract, claims.

WO 02/42537 discloses catalyst compositions comprises:

(a) organometallic compound which is the reaction product of orthoester or condensed orthoester of titanium, zirconium or aluminum, alcohol containing hydroxyl groups, 2-hydroxy carboxylic acid and base; and

(b) compound of germanium, antimony or tin.

A composition comprising (i) production of polyester involves reacting a compound chosen from terephthalic acid, dimethyl terephthalate, isophthalic acid, dimethyl isophthalate, dimethyl 2,6-naphthalate and naphthalene dicarboxylic acid with an alcohol like 1,2-ethanediol, 1,4-butanediol, 2,3-propanediol, 1,6-hexanediol, trimethylol-propane or pentaerythritol in presence of catalyst composition;

(ii) manufacture of polyester article involves subjecting polyester to solid phase polymerization reaction, to form polyester material having intrinsic viscosity of 0.5 dl/g, measured according to ASTM D4603 and forming polyester article from polyester material in melt phase and cooling;

(iii) polyester article containing residues of catalyst composition, such as tire cord and seat belt;

(iv) rubber reinforced article comprising tire cord;

(v) tire comprising rubber reinforced article;

(vi) safety restraint system comprising seat belt;

(vii) method of improving extensional viscosity in fiber spun from polyester made from titanium catalyst, involves using the catalyst composition to form polyester; and

(viii) fiber having improved extensional viscosity containing residues of catalyst composition.

The catalyst may be used for preparation of ester such as polyester used for production of textile and industrial fibers, films, rigid packaging articles such as bottles, trays and clamshell containers, tire cord, seat belt for safety restraint system and rubber reinforced article of tire (all claimed).

Polyester has improved melt properties is formed using improved organometallic composition. Polyester articles with improved process stability and product quality is formed by the improved melt properties of polyester.

WO 01/56694 discloses a catalyst composition comprises an organometallic compound which is a complex of (a) a first metal, (b) a second metal and (c) a carboxylic acid. The first metal is titanium or zirconium. The second metal is germanium, antimony or tin.

(A) A method of preparing the catalyst composition, comprising:

(a) adding separately to an aqueous carboxylic acid solution the sources of the first and second metals,

(b) removing water from the mixture and free alcohol formed in the reaction,

(c) optionally adding a base and/or an alcohol and

(d) optionally removing excess water from the composition.

(B) A process for the preparation of an ester, comprising carrying out an esterification reaction in the presence of the catalyst composition.

(C) A process for the manufacture of a polyester, comprising:

(a) reacting together terephthalic acid, dimethyl terephthalate, isophthalic acid, dimethyl isophthalate, dimethyl-2,6-naphthalate, or naphthalene dicarboxylic acid with 1,2-ethanediol, 1,4-butanediol, 2,3-propanediol, 1-6-hexanediol, trimethylol-propane, or pentaerythritol in the presence of the catalyst composition, and

(b) optionally subjecting the resulting polymer to a solid phase polymerization reaction, to form a polyester material having an intrinsic viscosity of at least 0.5 dl/g (ASTM D-4603).

The catalyst may be used for preparation of esters, polyesters and polyester articles, e.g. fibers, films or containers (claimed).

The catalyst composition produces esters and polyesters at an economical rate without leading to haze in the final product, and with a reduced amount of yellowing of polyesters.

Each of the references discloses a catalyst suitable for use in an esterification reaction comprising the same components as claimed by applicants except for the particular amounts and parameters, i.e. ranges as claimed or comprising the additional moieties as noted in the dependent claims18-27. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ particular amounts and/or parameters as known in the art, since it is well-established that merely selecting proportions and ranges is not patentable absent a showing of criticality. In re Becket, 33 U.S.P.Q. 33 (C.C.P.A. 1937). In re Russell, 439 F.2d 1228, 169 U.S.P.Q. 426 (C.C.P.A. 1971). Further, with regard to the addition of alcohols, dihydric alcohols, or hydroxy carboxylic acid, known of the components found in the dependent claims would have unobvious from the selection as noted in claim 14 and from those commonly used in the art for esterification process/products. Generally, it is prima facie obvious to select a known material for incorporation into a composition, based on its recognized suitability for its intended purpose. *See* Sinclair & Carroll Co. v. Interchemical Corp., 325 US 327, 65 USPQ 297 (1945). *See* also In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

Obviousness-type *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Provisional Double Patenting

Claims 1-27 are provisionally rejected under the judicially created doctrine of double patenting over claims of copending Application No**. 10538341; USP 10192537; or 10537651; USP 10432510**. This is a provisional double patenting rejection since the conflicting claims have not yet been patented. Each of the applications claims a catalyst suitable for use in an esterification reactions which may include the reactants and moieties as claimed by applicants.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terressa M. Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday-Thursday 10-5:30 Friday (work at home).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Terressa M. Boykin/
Primary Examiner, Art Unit 1796